

CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application.

1 1. (Currently Amended)) ~~Receiver (1,11)~~ A receiver comprising:
2 a receiving stage ~~(2,12) for receiving that receives~~ frequency signals;
3 a mixing stage ~~(3,13) coupled to the receiving stage (2,12) for generating that~~
4 generates converted frequency signals;
5 a modulating stage ~~(4,14) coupled to the mixing stage (3,13) for that delta-~~
6 sigma modulating modulates the converted frequency signals; and
7 a filtering stage ~~(5,15) coupled to the modulating stage (4,14) for filtering that~~
8 filters the delta-sigma modulated converted frequency signals, wherein the filtering
9 stage comprises a decimator receiving an output signal from a time-control loop
10 having a loop quantizer and a loop filter.

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1 2. (Currently Amended) ~~Receiver (1,11) as defined by~~ The receiver of claim 1,
2 wherein the modulating stage (4,14) comprises:
3 a delta-sigma modulator ~~(41,42,43,90) comprising:~~
4 a low-pass filter ~~(91);~~
5 a ~~quantiser (92)~~ quantizer coupled to the low-pass filter ~~(91);~~ and
6 a digital-to-analog converter ~~(93) for feeding that feeds~~ back an output
7 of the ~~quantiser (92)~~ quantizer to an input of the low-pass filter ~~(91).~~

1 3. (Currently Amended) Receiver ~~(1,11)~~ as defined by The receiver of claim 2,
2 wherein the low-pass filter ~~(91)~~ comprises a time-continuous filter.

1 4. (Currently Amended) Receiver ~~(1,11)~~ as defined by The receiver of claim 1,
2 further comprising:

3 a further mixing stage ~~(6,16)~~ coupled to the filtering stage ~~(5,15)~~ for
4 generating that generates baseband signals; and

5 a further filtering stage ~~(7,17)~~ coupled to the further mixing stage ~~(6,16)~~ for
6 that performs channel selective filtering of the baseband signals.

1 5. (Currently Amended) Receiver ~~(1)~~ as defined by The receiver of claim 1,
2 wherein the mixing stage ~~(3)~~ comprises a mixer ~~(32)~~, and the modulating stage
3 comprises a delta-sigma modulator ~~(41)~~.

1 6. (Currently Amended) Receiver ~~(11)~~ as defined by The receiver of claim 1,
2 wherein the mixing stage ~~(13)~~ comprises:

3 a first mixer ~~(34)~~ for generating that generates in-phase signals and

4 a second mixer ~~(35)~~ for generating that generates quadrature signals, and

5 the modulating stage ~~(14)~~ comprises:

6 a first delta-sigma modulator ~~(42)~~ for that delta-sigma modulating
7 modulates the in-phase signals, and

8 a second delta-sigma modulator ~~(43) for that~~ delta-sigma modulating
9 modulates the quadrature signals.
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1 7. (Currently Amended) ~~System (100)~~ A system comprising:

2 a transmitter; ~~(101)~~ and

3 ~~comprising~~ a receiver ~~(1,11)~~ which comprises:

4 a receiving stage ~~(2,12) for receiving that~~ receives frequency signals;

5 a mixing stage ~~(3,13)~~ coupled to the receiving stage ~~(2,12) for~~
6 ~~generating that~~ generates converted frequency signals;

7 a modulating stage ~~(4,14)~~ coupled to the mixing stage ~~(3,13) for that~~
8 ~~delta-sigma modulating~~ modulates the converted frequency signals; and

9 a filtering stage ~~(5,15)~~ coupled to the modulating stage ~~(4,14) for~~
10 ~~filtering that filters the~~ delta-sigma modulated converted frequency signals,
11 wherein the filtering stage comprises a decimator receiving an output signal
12 from a time-control loop having a loop quantizer and a loop filter.
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1 8. (Currently Amended) ~~Modulating/filtering~~ A modulating/filtering stage

2 ~~(10,20)~~ for use in a receiver ~~(1,11)~~ comprising:

3 a receiving stage ~~(2,12) for receiving that~~ receives frequency signals;

4 a mixing stage ~~(3,13)~~ coupled to the receiving stage ~~(2,12) for generating that~~
5 generates converted frequency signals;

6 ~~the modulating/filtering stage (10,20) comprising~~

7 a modulating stage (4,14) coupled to the mixing stage (3,13) for that delta-
8 sigma modulating modulates the converted frequency signals; and

9 a filtering stage (5,15) coupled to the modulating stage (4,14) for filtering that
10 filters the delta-sigma modulated converted frequency signals, wherein the filtering
11 stage comprises a decimator receiving an output signal from a time-control loop
12 having a loop quantizer and a loop filter.

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1 9. (Currently Amended) ~~Method~~ A method for receiving frequency signals and
2 comprising: ~~the steps of~~

3 generating converted frequency signals;

4 delta-sigma modulating the converted frequency signals; and

5 filtering the delta-sigma modulated converted frequency signals, wherein the
6 filtering uses a decimator receiving an output signal from a time-control loop having
7 a loop quantizer and a loop filter.

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1 10. (Canceled)

1 11. (New) The receiver of claim 1, wherein the loop filter further comprises:

2 an adder that combines a detected signal with a feedback signal, thereby
3 producing a sum;

4 an inverse z block that receives the sum and produces the feedback signal;

5 and

6 a gain block that processes the feedback signal to produce the output signal
7 that is sent to the loop quantizer to control the decimator.